EXHIBIT 12

FILED UNDER SEAL

Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 2 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

```
1
                     UNITED STATES DISTRICT COURT
               FOR THE NORTHERN DISTRICT OF CALIFORNIA
 2
 3
 4
      GOOGLE LLC;
                                       )
                      Plaintiff,
 5
 6
            vs.
                                         Case No.
                                          3:20-cv-06754-WHA
 7
      SONOS, INC.;
                      Defendant.
 8
 9
      SONOS, INC.;
10
                      Plaintiff,
11
                                          Case No.
            vs.
12
                                           3:21-cv-07559-WHA
      GOOGLE LLC;
13
                      Defendant.
14
       HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE
15
16
                30(B)(6) WITNESS FOR GOOGLE & 30(B)(1)
17
18
          VIDEOTAPED REMOTE DEPOSITION OF TAVIS MACLELLAN
                         Richmond, California
19
                      Friday, November 11, 2022
20
21
22
      Reported by:
23
      Lynda L. Fenn, CSR, RPR
      CSR No. 12566
24
25
      JOB No. 5577014
                                                          Page 1
```

Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 3 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

1	Richmond, California	
2	Friday, November 11, 2022	
3	9:03 a.m 3:45 p.m.	
4		
5		
6		
7	THE VIDEOGRAPHER: Good morning. We're	09:03:10
8	going on the record at 9:03 a.m. on November 11th,	09:03:12
9	2022.	
10	This is media unit one of the	09:03:16
11	video-recorded deposition of Tavis Maclellan, and	09:03:18
12	Tavis Maclellan is a 30(b)(6) witness for Google	09:03:21
13	taken by counsel for plaintiff, slash, defendant in	09:03:26
14	the matter of Sonos, Inc., versus Google filed in the	09:03:29
15	United States District Court for the Northern	09:03:33
16	District of California. The case number is	09:03:36
17	3:20-cv-06754-WHA and related case number is	09:03:45
18	3:21-cv-07559-WHA.	
19	This deposition is being conducted remotely	09:03:53
20	using virtual technology.	09:03:55
21	My name is Jeff Nichols from the firm	09:03:57
22	Veritext Legal Solutions and I am the videographer.	09:04:01
23	The court reporter is Lynda Fenn from the firm	09:04:03
24	Veritext Legal Solutions.	09:04:07
25	Counsel will now please state their	09:04:08
		Page 5

Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 4 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

1		
1	appearances and affiliations for the record.	09:04:10
2	MR. BOYEA: Michael Boyea from Lee,	09:04:14
3	Sullivan, Shea & Smith on behalf of Sonos.	09:04:20
4	MR. KAPLAN: This is Marc Kaplan from Quinn	09:04:21
5	Emanuel Urquhart & Sullivan on behalf of Google and	09:04:28
6	the witness and with me today is Patrick Weston from	09:04:31
7	Google.	09:04:38
8	THE VIDEOGRAPHER: Thank you.	09:04:39
9	Will the court reporter please swear in the	09:04:40
10	witness.	09:04:57
11	THE COURT REPORTER: Mr. Maclellan, please	09:04:57
12	raise your right hand.	09:04:59
13		
14	TAVIS MACLELLAN,	
15	produced as a witness on behalf of the	
16	Plaintiff/Defendant, and having been first duly	
17	sworn, was examined and testified as follows:	
18		
19	EXAMINATION	
20	BY MR. BOYEA:	
21	Q Good morning, please state and spell your	09:05:02
22	name for the record?	09:05:05
23	A My name is Tavis Maclellan, first name	09:05:05
24	Tavis, T-a-v-i-s, last name Maclellan,	09:05:07
25	M-a-c-l-e-l-l-a-n.	09:05:13
		Page 6
ı		

Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 5 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

1	BY MR. BOYEA:	09:41:34
2	Q Well, yeah, you so we were talking about	09:41:35
3	a hub and then you said it would be able to call the	09:41:37
4	Cast APIs on the Cast receiver for it to attempt some	09:41:40
5	sort of transfer, yes.	09:41:45
6	So I'm trying to figure out what "it" is in	09:41:47
7	your statement and what the Cast receiver is in your	09:41:50
8	answer?	09:41:53
9	A Uh-huh.	09:41:55
10	So when I refer to Cast receiver, again I'm	09:41:57
11	referring to the C++ firmware code that runs on the	09:41:59
12	device that implements sort of all the Cast	09:42:03
13	protocols, as you mentioned earlier kind of the code	09:42:07
14	under Chromecast.	09:42:10
15	When I say, "it," I'm referring to the UX	09:42:12
16	elements that the user is actually interacting with	09:42:16
17	on the hub device, that is code that I didn't write,	09:42:19
18	so I don't know the most proper term to refer to it	09:42:23
19	as.	09:42:25
20	But that those elements will somehow	09:42:28
21	call into the APIs that I do own and that would be	09:42:32
22	the Cast receiver.	09:42:35
23	Q Okay.	09:42:46
24	So other than a hub do you know is stream	09:42:47
25	transfer let me strike that.	09:42:50
		Page 37

Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 6 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

1	A At a high level or are you asking, like,	10:42:09
2	what is the code doing?	10:42:12
3	Q Yeah well, yeah, what is the code doing?	10:42:13
4	A I mean, I can run through the	10:42:15
5	Q Sure. Yeah, that would be great.	10:42:20
6	A So, line 718 again, I didn't author this	10:42:25
7	code just for reference as well.	10:42:31
8		10:42:35
9		10:42:40
10		10:42:44
11	Again, I didn't write this code so I	10:42:46
12	actually wouldn't be able to tell what the is audio	10:42:48
13	flag means or the field means in this type script	10:42:54
14	file.	10:42:57
15		10:42:58
16		10:43:04
17		10:43:08
18		10:43:12
19		10:43:15
20		10:43:19
21		10:43:21
22	And then I'm not familiar with what the	10:43:35
23	line to 724, this playing on device. I would need to	10:43:37
24	see the code of that function to understand what it's	10:43:41
25	doing.	10:43:43
		Page 74

Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 7 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

1	your question was?	11:36:47
2	Q Yeah.	11:36:48
3	So, looking at the comment at 1145, it	11:36:48
4	makes me ask you this question: In our hypothetical	11:36:53
5	where the hub device is the source task receiver,	11:36:57
6	will the transfer stream function be called here?	11:37:01
7	Will this path, if that makes sense, trigger this	11:37:05
8	call of the transfer stream function?	11:37:14
9	MR. KAPLAN: Object to form.	11:37:15
10	THE WITNESS: So, like I said, there are	11:37:18
11	cases where a running receiver app on the hub may	11:37:21
12	take a different path to achieve the transfer.	11:37:28
13	But this path can be it if the partner	11:37:31
14	app or, sorry, the Cast receiver app in question	11:37:35
15	does support the store session and resume session.	11:37:38
16	And it indicates in its capabilities that	11:37:41
17	it provides to Cast firmware code that it does	11:37:43
18	support Stream Transfer.	11:37:47
19	BY MR. BOYEA:	11:37:55
20	Q So do you have any understanding of the	11:37:55
21	comment starting at 1145 to 1147, what that means?	11:37:57
22	MR. KAPLAN: Object to form.	11:38:08
23	THE WITNESS: Yes, I did not write this	11:38:09
24	code this comment, so I cannot definitively say	11:38:15
25	exactly the intent behind it.	11:38:19
		Page 114

Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 8 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

1	previously, we called connection, dot, send/receiver	13:37:24
2	message for, like, the launch request. That is a	13:37:26
3	request to the receiver device for the receiver	13:37:28
4	endpoint.	13:37:30
5	This one, because we have connected to the	13:37:31
6	app, this is sending the media space message directly	13:37:33
7	to the app that we had launched earlier.	13:37:38
8	MR. BOYEA: Okay.	13:37:40
9	BY MR. BOYEA:	13:37:40
10	Q So this is a message that's going from the	13:37:42
11	hub device in our example over to the new destination	13:37:45
12	Cast receiver device; right?	13:37:50
13	A Yeah. So, this will be sent from whatever	13:37:55
14	your Cast receiver currently is to wherever the	13:37:58
15	destination is.	13:38:01
16	It could be, again, like, you know, how	13:38:02
17	there was that fork for local handling. So there is	13:38:04
18	no guaranty that this is sent across the network.	13:38:09
19	But if the destination is a separate	13:38:11
20	device, this is where it will be sent across the	13:38:14
21	network to that Cast endpoint, which would then be	13:38:17
22	forwarded onto the partner receiver app that is	13:38:21
23	running.	13:38:25
24	Q Okay. So, let me just summarize where	13:38:25
25	we're at, because I know you think we're going to	13:38:27
		Page 165

Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 9 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

1	turn to the destination side.	13:38:30
2	So, in our example we have a hub that's the	13:38:33
3	source. The user is invoking a Stream Transfer to	13:38:35
4	another physical Cast receiver. And that's going to	13:38:41
5	trigger is a set playback devices call at the hub	13:38:45
6	device; correct?	13:38:50
7	MR. KAPLAN: Object to form.	13:38:52
8	THE WITNESS: Yes, there will be a set	13:38:52
9	playback devices in that method that we looked at in	13:38:59
10	dynamic group manager.	13:39:01
11	BY MR. BOYEA:	13:39:01
12	Q And then the hub will eventually do a store	13:39:02
13	session; correct?	13:39:06
14	MR. KAPLAN: Object to form.	13:39:07
15	THE WITNESS: Yeah, there were a lot of	13:39:07
16	conditions, as I mentioned before, where that might	13:39:09
17	not happen.	13:39:11
18	But if it does decide that it will send	13:39:12
19	that store session, it will send it to the app that	13:39:15
20	is running on the hub device and then it will get the	13:39:18
21	response with the session state, yes.	13:39:21
22	BY MR. BOYEA:	13:39:23
23	Q And then the hub device will send a launch	13:39:24
24	message to the destination Cast receiver; correct?	13:39:27
25	MR. KAPLAN: Object to form.	13:39:32
		Page 166

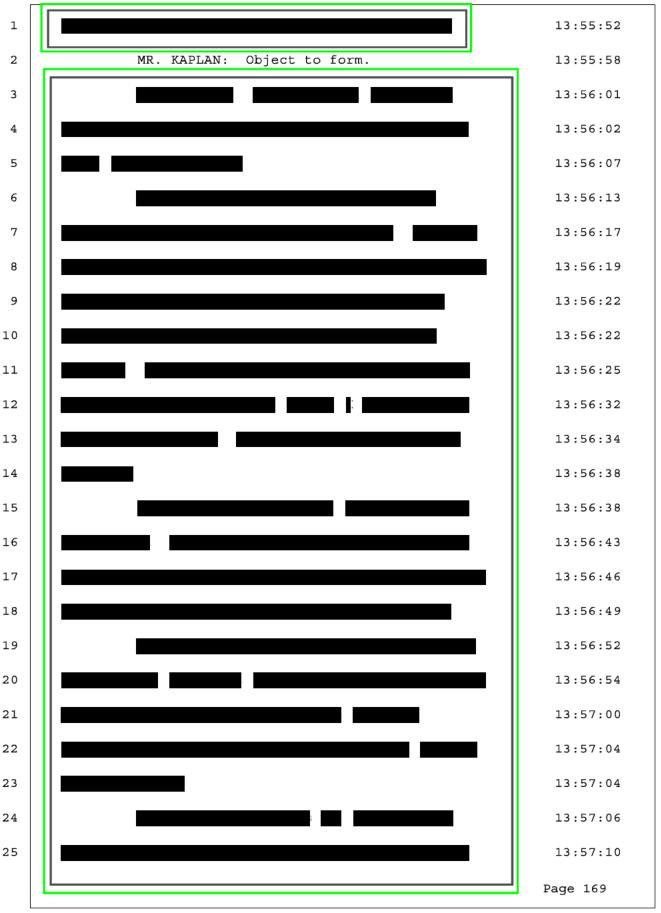
Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 10 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

1	THE WITNESS: It will to be pedantic,	13:39:33
2	it's the full Cast V2 connection.	13:39:37
3	So, the actual packets that would be sent	13:39:39
4	would be TCP connection to the destination, SSL	13:39:41
5	handshake, Cast V2 connect, followed by Cast V2 get	13:39:45
6	app availability.	13:39:50
7	Remember, we did that first. Get the	13:39:50
8	response. And then it will send a Cast V2 launch.	13:39:52
9	Then you wait for the receiver status to confirm that	13:39:57
10	the app has been launched with the session I.D. that	13:40:00
11	you would like it to be.	13:40:03
12	BY MR. BOYEA:	13:40:04
13	Q And then the last main thing that we talked	13:40:05
14	about is the hub source device will then send the	13:40:09
15	resume session message to the destination Cast	13:40:14
16	receiver; correct?	13:40:18
17	MR. KAPLAN: Same objection.	13:40:21
18	THE WITNESS: It will specifically send it	13:40:22
19	to the receiver app running on the destination Cast	13:40:24
20	receiver.	13:40:27
21	MR. BOYEA: Correct. Okay.	13:40:32
22	Now is a good time to take a break if you	13:40:33
23	want and then we can continue after.	13:40:35
24	MR. KAPLAN: That's fine.	13:40:38
25	MR. BOYEA: We can keep going, it's up to	13:40:38
		Page 167

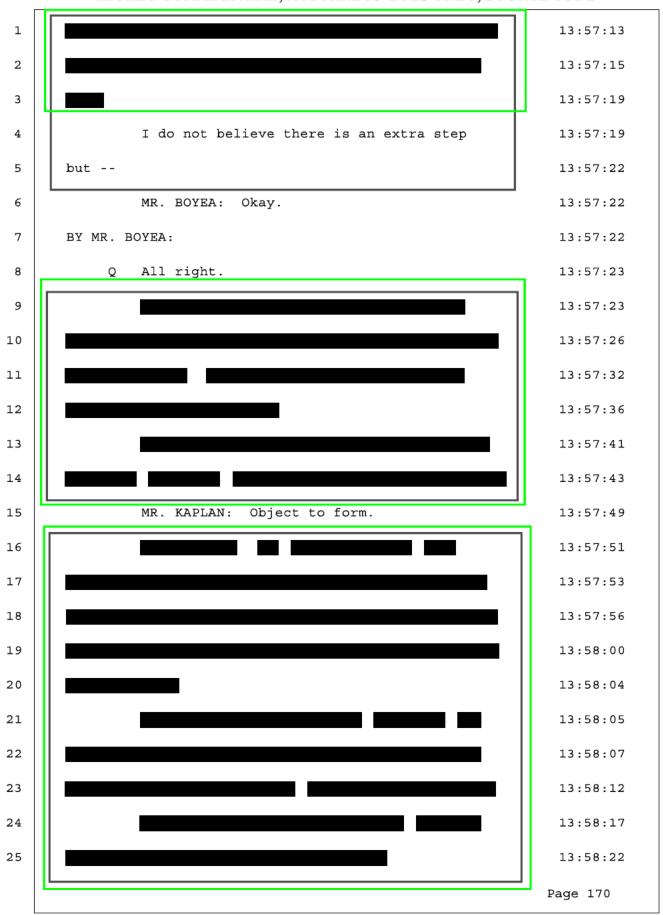
Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 11 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

1	you, Mr. Maclellan.	13:40:41
2	THE WITNESS: No, we can take a short	13:40:42
3	break.	13:40:44
4	MR. BOYEA: Five or ten minutes again?	13:40:45
5	THE WITNESS: Let's do ten minutes.	13:40:46
6	MR. BOYEA: Perfect. Okay.	13:40:48
7	THE VIDEOGRAPHER: We are going off the	13:40:49
8	record. The time is 1:40 p.m.	13:40:50
9	(Brief interruption in proceedings.)	13:55:07
10	THE VIDEOGRAPHER: We are back on record.	13:55:07
11	The time is 1:55 p.m.	13:55:09
12	BY MR. BOYEA:	13:55:12
13	Q Welcome back, Mr. Maclellan.	13:55:13
14	Before we get to the destination Cast	13:55:14
15	receiver, I want to look back at the Stream Transfer	13:55:16
16	manager file and that's going to be I think it's	13:55:19
17	1717.	13:55:24
18	A Okay. I'm there.	13:55:32
19	MR. BOYEA: And for the record, this is	13:55:34
20	Stream, underscore, Transfer, underscore, manager,	13:55:35
21	dot, CC.	13:55:37
22	BY MR. BOYEA:	1
23		13:55:39
24		13:55:42
25		13:55:46
		Page 168

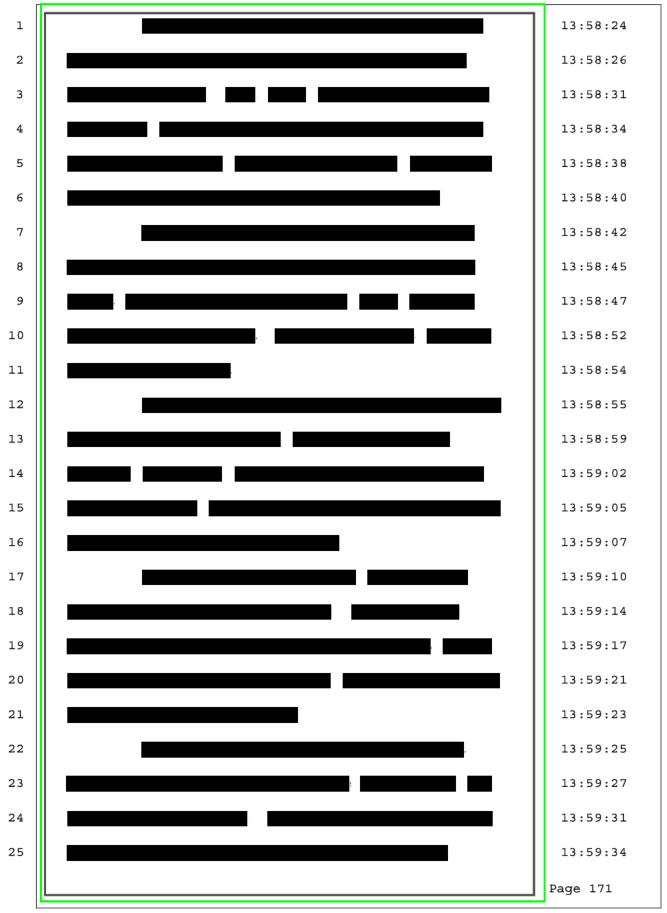
Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 12 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE



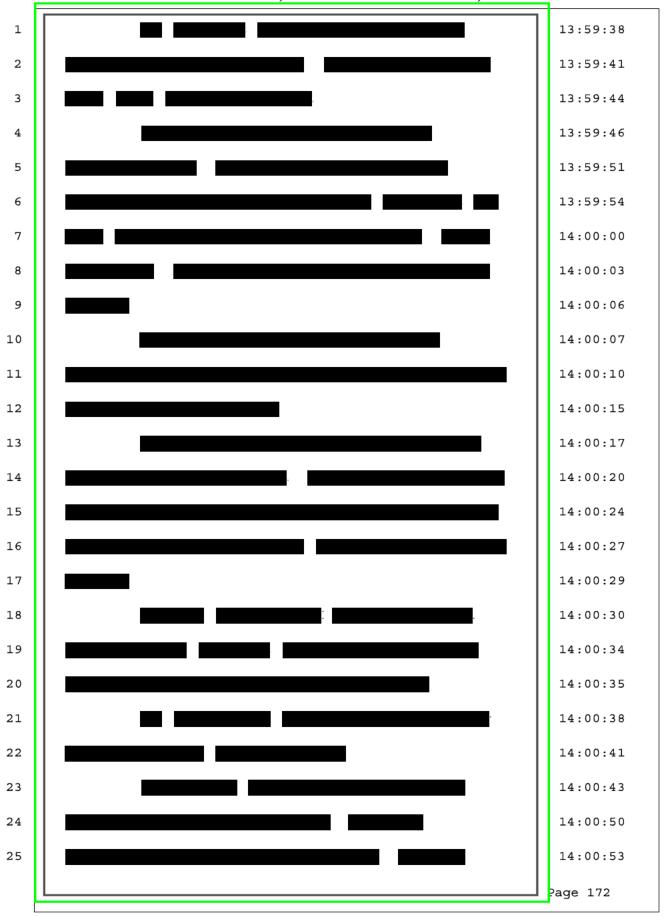
Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 13 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

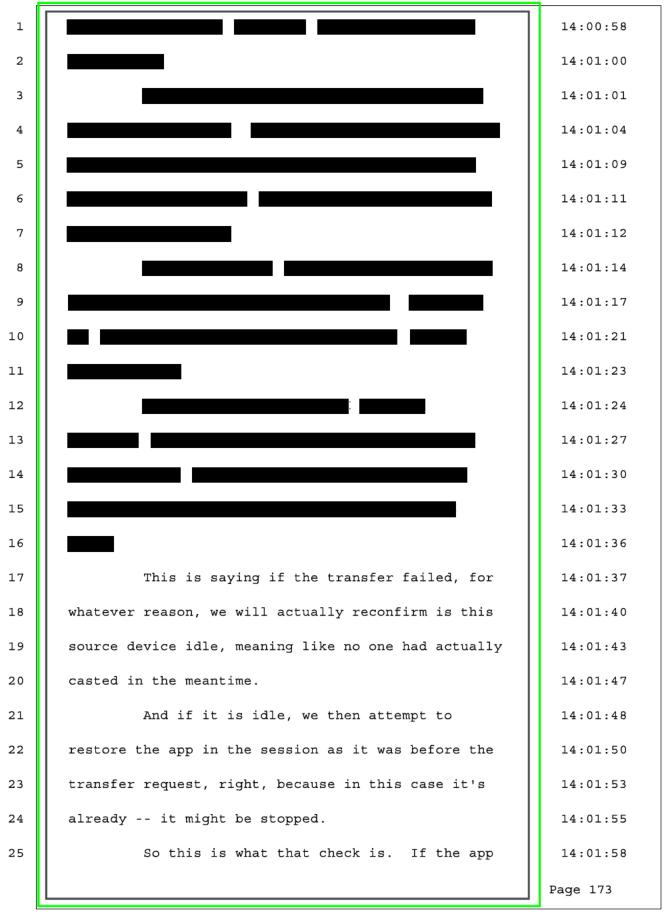


Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 14 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE



Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 15 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE





Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 17 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

	,,,,,,,,	
1	had been stopped, then we attempt to restore it.	14:02:00
2	MR. BOYEA: Okay.	14:02:03
3	BY MR. BOYEA:	14:02:03
4	Q So then in our example, so if the hub	14:02:04
5	source device sends the resume session message,	14:02:07
6	receives a failure back from the destination, the hub	14:02:14
7	might try to basically resume playing back the media.	14:02:18
8	Is that effectively what's happening?	14:02:23
9	MR KAPLAN: Object to form	14:02:33
10	THE WITNESS: It will attempt to recreate	14:02:34
11	the web app kind of as it was. And so because we are	14:02:36
12	calling restore local session, again, we've	14:02:38
13	potentially already completely terminated the web	14:02:39
14	page, so we will relaunch it.	14:02:40
15	And then we will inject the same resume	14:02:42
16	session with the session state into this new web app.	14:02:45
17	This is a completely new Java script instance in	14:02:50
18	HTML.	14:02:53
19	MR. BOYEA: I see.	14:02:53
20	THE WITNESS: And so it's almost like, you	14:02:55
21	know, we were trying to resume session on the target,	14:02:55
22	but if it fails we actually just turn to ourself and	14:02:57
23	then try and do the same thing, try and resume	14:03:00
24	session on ourself, because you are right, we do	14:03:03
25	want to restore playback to what it was and but	14:03:05
		Page 174

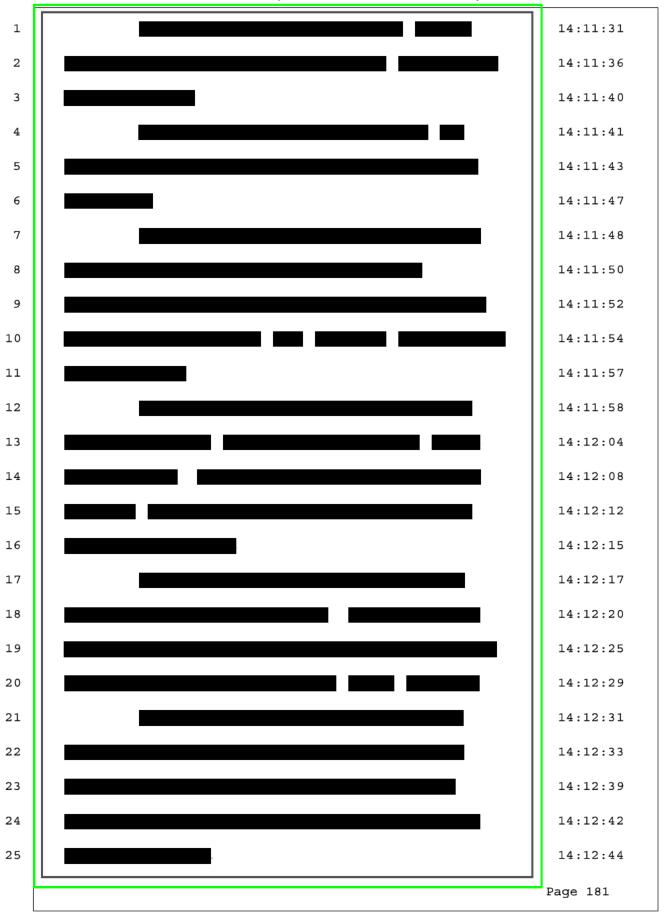
Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 18 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

1	the actual details of restoring the playback, is up	14:03:08
2	to the SDK or the partner app to do correctly.	14:03:13
3	O I see. All right.	14:03:16
4		14:03:18
5		14:03:20
6		14:03:24
7		14:03:30
8	A Sorry, I'm still looking. I think I might	14:04:07
9	know where it is.	14:04:09
10	Q No worries.	14:04:10
11	MR. BOYEA: And just for the record, this	14:04:22
12	is a printout of Cast adaptor, dot, TS.	14:04:23
13	And the PDF is Bates stamped with ending	14:04:28
14	0229. The source code line that begins on this page	14:04:34
15	is 469.	14:04:38
16	MR. KAPLAN: So, I think this is going to	14:04:41
17	be in the file with the 74 in it.	14:04:43
18	THE WITNESS: Uh-huh. Yeah, I actually	14:04:46
19	have I have the page opened. It's 0229 Cast	14:04:48
20	adaptor, dot, TS.	14:04:53
21	MR. BOYEA: Correct.	14:04:55
22	MR. KAPLAN: I'm actually still pulling it	14:04:55
23	up too.	14:04:57
24	BY MR. BOYEA:	14:05:02
25	Q So, Mr. Maclellan, I understand	14:05:03
		Page 175

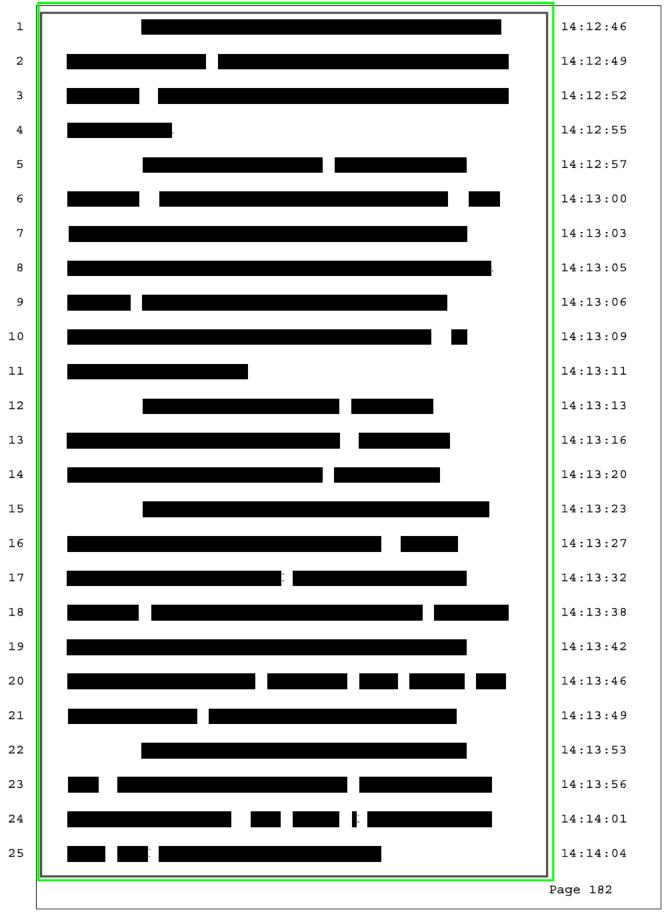
Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 19 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

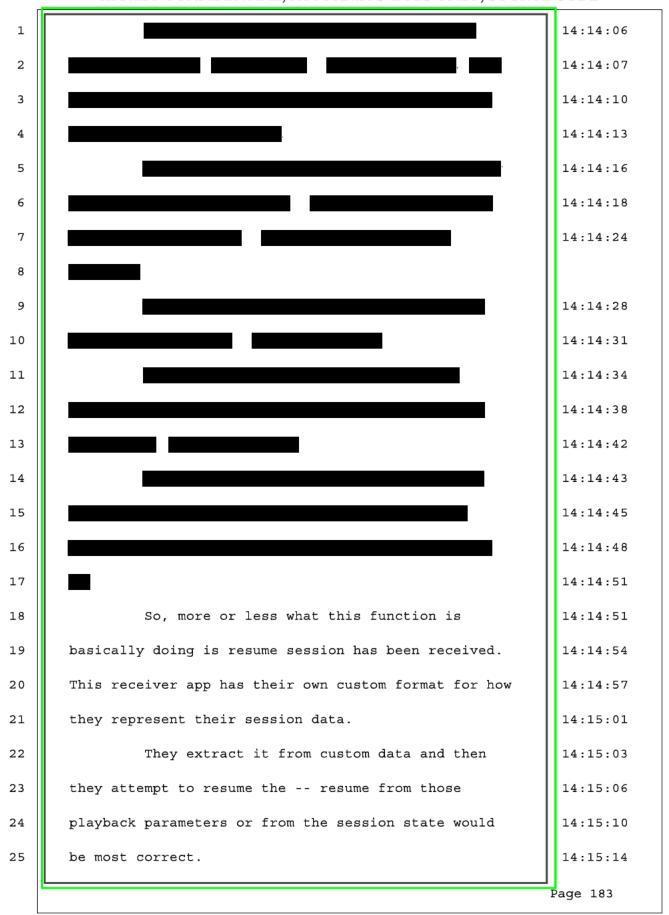
1	method and that's going to be your file is going	14:10:12
2	to end at 1731?	14:10:16
3	MR. KAPLAN: Sorry, you said Bates	14:10:29
4	No. 1731?	14:10:32
5	MR. BOYEA: Yeah.	14:10:33
6	MR. KAPLAN: Okay. Give us just a second.	14:10:34
7	MR. BOYEA: Uh-huh.	14:10:36
8	THE WITNESS: I have it opened, though.	14:10:37
9	MR. BOYEA: Perfect. And for the record,	14:10:39
10	this is another printout from Casa adaptor, dot, TS,	14:10:41
11	lines 920 to line 946 and the Bates number ends in	14:10:46
12	1731.	14:10:51
13	Let me know once you are there, Marc.	14:10:53
14	MR. KAPLAN: Almost.	14:10:56
15	Okay. Yeah.	14:11:09
16	MR. BOYEA: All right.	14:11:11
17	BY MR. BOYEA:	
18	Q Mr. Maclellan, if you could just help me	14:11:12
19	understand what's happening in this method.	14:11:14
20	I know you personally might not have	14:11:16
21	written it, but if you could help me understand the	14:11:19
22	functions that are being called.	14:11:23
23	MR. KAPLAN: Object to form. Scope.	14:11:26
24	THE WITNESS: Yes. So, again, preface that	14:11:28
25	I didn't write this code.	14:11:30
		Page 180

Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 20 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE



Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 21 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE





Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 23 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

		<u> </u>
1	multi zone follower application which is just a C++	14:28:26
2	code that handles stuff. And then it will begin	14:28:29
3	partaking in a multi zone group playback exactly as	14:28:32
4	if you had cast it, right.	14:28:36
5	So the distinction there is that, you know,	14:28:37
6	am I just doing this locally to myself or am I is	14:28:40
7	it is the leader endpoint a completely different	14:28:45
8	device.	14:28:47
9	And that's also why I mentioned earlier	14:28:48
10	that stop app does not necessarily mean that that	14:28:50
11	source device will ever stop playing audio, right.	14:28:54
12	In that case there will be a brief amount	14:28:57
13	of time where the app is stopped, but then it will,	14:28:59
14	you know, be part of the group playback.	14:29:01
15	So from the user's point of view, that	14:29:03
16	source device that was playing never stopped playing.	14:29:05
17	MR. BOYEA: That makes sense.	14:29:10
18	BY MR. BOYEA:	
19	Q So in the example that we were talking	14:29:11
20	about where you have the hub, you have two other	14:29:14
21	receivers and one of the other receivers is playing	14:29:18
22	audio.	14:29:20
23	The hub is only going to send the set	14:29:21
24	playback devices message and then after that it's	14:29:24
25	done with the Stream Transfer?	14:29:27
		Page 195

Case 3:20-cv-06754-WHA Document 891-5 Filed 05/03/24 Page 24 of 25 HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY, SOURCE CODE

1	MR. KAPLAN: Object to form.	14:29:31
2	THE WITNESS: Yes, it will be waiting on a	14:29:31
3	response.	
4	So if there was some sort of UX on the hub	14:29:38
5	that would like to indicate the success or failure,	14:29:41
6	as an example, so it will send the set playback to	14:29:44
7	the Cast V2 and then at that point it is now waiting	14:29:48
8	for a response.	14:29:51
9	So we looked at the code where the Stream	14:29:53
10	Transfer connection can defect, oh, an error happened	14:29:56
11	for whatever reason.	14:30:00
12	That will then be forwarded back to the	14:30:01
13	original hub device that sent that request. And then	14:30:03
14	basically, hey, your request to change the playback	14:30:08
15	was failed for X, Y, Z reasons.	14:30:11
16	MR. BOYEA: I see. I see. Okay.	14:30:15
17	BY MR. BOYEA:	
18	Q So shifting gears a little bit, the first	14:30:17
19	examples we were talking about, the hub was the	14:30:19
20	device that was playing originally playing the	14:30:22
21	media session that we were transferring to the	14:30:25
22	destination.	14:30:28
23	After the hub successfully performs the	14:30:31
24	Stream Transfer, is it the case that the hub can be	14:30:37
25	used to control playback at the destination?	14:30:42
		Page 196

1	STATE OF CALIFORNIA)
2) ss.
3	COUNTY OF LOS ANGELES)
4	I, Lynda L. Fenn, Certified Shorthand
5	Reporter No. 12566 for the State of California, do
6	hereby certify:
7	That prior to being examined, the witness named
8	in the foregoing deposition was duly sworn to testify
9	the truth, the whole truth, and nothing but the
10	truth;
11	That said deposition was taken down by me in
12	shorthand at the time and place therein named and
13	thereafter reduced by me to typewritten form and that
14	the same is a true, correct, and complete transcript
15	of said proceedings.
16	Before completion of the deposition, review of
17	the transcript [X] was [] was not requested. If
18	requested, any changes made by the deponent (and
19	provided to the reporter) during the period allowed
20	are appended hereto.
21	I further certify that I am not interested in
22	the outcome of the action.
23	Witness my hand this 16th day of November, 2022.
24	Lynda Fenn
25	Lynda L. Fenn, CSR, RPR
	Page 247